

to the depth of 10 feet or more. In all, it is probably safe to estimate that nearly half of the total area of the islands, or about 55,000 acres, and also 50,000 acres of grain land, as stated above, were flooded.

The highest and lowest water, mean stage, and monthly range at 202 river stations are given in Table VII. Hydrographs for typical points on seven principal rivers are shown

on Chart V. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.—*C. C. Cooper, Weather Bureau.*

CLIMATE AND CROP SERVICE.

By Mr. JAMES BERRY, Chief of Climate and Crop Service Division.

The following summaries relating to the general weather and crop conditions during March are furnished by the directors of the respective sections of the Climate and Crop Service of the Weather Bureau; they are based upon voluntary reports from meteorological observers and crop correspondents, of whom there are about 3000 and 14,000, respectively:

Alabama.—Prevalent warm and generally dry weather was favorable for preparatory work and for germination and growth, except in northern counties where too much rain fell; much upland corn planted, some up to good stands; some cotton planted; nearly all early vegetables up to good stands; strawberries beginning to ripen; peaches in northern counties were damaged by the freeze of the 27th and 28th, but otherwise fruit prospects continued good.—*F. P. Chaffee.*

Arizona.—Dry weather continued until the early part of the third decade, when the drought was relieved slightly by rain and snow. High temperatures prevailed during the first two decades, but there was considerable cold weather, with damaging frosts, during the third decade. Crops did well in the lower Colorado Valley, but elsewhere did not thrive, and the prospect was discouraging at the end of the month. Range stock suffered greatly from insufficient feed and water.—*M. E. Blystone.*

Arkansas.—First of month favorable for farm work; some corn and potatoes were planted and small grain sown in southern portion, and came up to good stands; excessive rains latter part caused suspension of all work; fall grains doing well; very little ground prepared for cotton and none planted; peaches and plums in blossom; some peaches in extreme northern portion of the State damaged by cold weather, but generally fruit suffered no material injury from cold weather.—*Edward B. Richards.*

California.—Heavy rains continued the greater part of the month in central and northern sections, with abundant snow in the mountain districts and lighter rainfall in the southern sections. Great damage was caused by high waters in the Sacramento and northern San Joaquin valleys. Thousands of acres of valuable grain lands and rich asparagus fields were flooded, and replanting will be impossible in many cases. High winds on the 9th and 10th also caused much damage to orchards and farm buildings.—*Alexander G. McAdie.*

Colorado.—Soil too dry in eastern counties until rain and snow at close of month; plowing about half finished elsewhere. Dryness and high winds delayed seeding and damaged winter grain. Fruit trees were far advanced, and were injured somewhat by cold near close of month. Considerable snow fell in mountain districts, materially increasing the store of moisture; springs are revived, a good waterflow is indicated for the early season, and the late flow will probably be somewhat increased.—*F. H. Brandenburg.*

Florida.—Warm and mostly dry weather characterized the month. Farm work was well advanced. The early corn was worked. The bulk of the cotton crop was planted during the last decade; some early seeding was chopped; planting continued, however, at the close of the month, and the acreage will be materially increased. Pineapples suffered from the dry weather, and much citrus bloom was lost. Strawberries were plentiful and vegetable shipments active.—*A. J. Mitchell.*

Georgia.—The month was characterized by generally warm weather and light rainfall, the average precipitation being the lowest on record for March. Frequent rains in the northern section retarded farm work; elsewhere planting was well advanced at the close of the month. Corn planting was general in central and southern districts. Cotton seeding was confined to the southern half of State. The peach crop was injured but little, if at all, by frost.—*J. B. Marbury.*

Idaho.—The temperature was slightly below the normal, while the precipitation average was the greatest on record for any month; snow in the mountains attained an unusual depth, roads in valleys were very muddy throughout the month, and little farm work was done. Trees, hay crops, and winter grain were reported in excellent condition. Range grass started well; stock mostly in fair condition, though there was some loss of sheep from heavy rain and snow.—*Edward L. Wells.*

Illinois.—Wheat showed decided improvement, having reached nearly average development in the southern district, where the crop was least promising during the winter. Rye was in a thrifty stage. The season was very backward and the soil too wet for spring plowing. Only a few fields had been sown with oats. Pastures and meadows were generally promising. Peach buds were conceded to be mostly killed or injured, but other fruits, especially apples, were believed to be unscathed.—*Wm. G. Burns.*

Indiana.—Wheat improved during the month and was generally in fair condition at the time of the occurrence of excessive rains on March 25-26, which badly washed all fall sown crops on rolling and hill lands and flooded those on creek and river bottoms. At the close of the month the bottoms of the lower reaches of the White and Wabash rivers were still flooded and the entire loss of a large acreage of wheat seemed probable.—*W. T. Blythe.*

Iowa.—March was a typical spring month, in respect to temperature and precipitation, with less than the usual number of severe storms; but conditions were generally unfavorable for seeding and other field work. In a few favored localities oat and spring wheat seeding was begun. The ground was frozen to an unusual depth, and the frost yielded slowly, leaving the surface quite wet. Farm stock doing well. Fall wheat and rye damaged.—*John R. Sage.*

Kansas.—Wheat improved rapidly in eastern, less rapidly in central, and was poor in western counties. Oats were sown and coming up in southern districts and sowing had progressed in the central and begun in the northern counties. Plowing was completed in the southern and was progressing in the central counties. Corn planting had progressed well in the southeastern counties and had begun in the central-eastern. Peaches, apricots, pears, and plums were blooming in the southern counties.—*T. B. Jennings.*

Kentucky.—The rainfall averaged considerably above normal for the month. In some localities it was very heavy, causing considerable damage to crops by washing and flooding. The temperature was slightly above normal. The outlook for fruit was quite good. Wheat had improved considerably, but was still unsatisfactory. Tobacco beds were sown and plants were coming up in the early ones at the end of the month. Grass was starting well. Farm work was late.—*H. B. Hersey.*

Louisiana.—Occasional showers well distributed over the State proved exceptionally favorable for farming interests. Preparations for the cotton crop were unusually well advanced and planting was well under way over the southern portion of the State. Sugar cane was doing well, except that fall planting was backward. Rice seeding was being pushed forward. Corn was coming up to good stands and early planted was being cultivated. Berries are of good quality and the crop is heavy. Trucking interests were well advanced.—*I. M. Cline.*

Maryland and Delaware.—Temperature and sunshine were below normal; precipitation was slightly deficient, though rainy days were in excess. The ground was frozen until the last decade and then too wet for plowing, except on uplands. The weather was favorable for grain and grasses, which made great improvement generally, and for care of last year's tobacco. Late wheat was in very poor condition. Some potatoes, peas, and gardens were planted, and clover seeding was nearly completed.—*Oliver L. Fussig.*

Michigan.—Winter wheat and rye seemed to have wintered fairly well. At the close of the month wheat and rye tops were somewhat brown, but the roots were apparently healthy; on low, heavy land excessive moisture damaged wheat. Fruit buds as far as could be determined were generally in good condition. At the close of the month frost was still in the ground and field work had not begun.—*C. F. Schneider.*

Minnesota.—Coldest weather occurred generally on the 3d, when all minimum temperatures were below zero; temperatures were again below zero in northern counties as late as the 27th, but the weather was less severe from the 6th to the 26th. Precipitation occurred on many days; the northern districts were covered with snow the entire month, and the southern until the 24th. A little wheat was sown on light high lands in the southwestern and central-western districts on the 31st.—*T. S. Outram.*

Mississippi.—Conditions were very favorable, except heavy rains north during the last decade, and frosts on the 27th and 28th. Farm work was unusually well advanced, except in the extreme northeastern counties, where labor was scarce. Oats did well. Much corn was planted and some was up to good stands in the southern counties. Cotton planting began. Garden truck and fruit were generally promising, although damaged somewhat by frosts north. Vegetables and strawberries were being shipped from the south.—*W. S. Belden.*

Missouri.—The month was generally favorable for winter wheat, which improved decidedly in nearly all sections. In the southwestern counties oats were nearly all sown, considerable plowing was done for corn, and a little corn was planted up to the 24th, but elsewhere very little farm work was done, the soil being too wet. Excessive rains in the southeastern counties on the 24-25th washed fields badly and caused floods which did much damage to crops and property.—*A. E. Harkett.*

Montana.—The coldest weather occurred in the first and last decades;

moderate temperatures for the most part from the 5th to 22d. Precipitation mostly snow and much in excess of normal. Many ranges were covered most of month and blizzards occurred on several dates; stock interests suffered accordingly, but month closed more favorable. Much feeding necessary latter half of month, as ranges, where clear of snow, are short. Abundance of water for irrigation promised in all sections.—*R. F. Young.*

Nebraska.—March was warm and dry. The soil in the western counties was rather dry for seeding, but in the central and eastern counties it was in excellent condition. Considerable winter wheat was sown the latter part of the month, and oat seeding was general in central and southern counties. Winter wheat started nicely except in western counties, where the crop was in a decidedly unsatisfactory condition owing to dry weather during and since the time of seeding.—*G. A. Loveland.*

Nevada.—Weather mild and generally cloudy, with frequent rains in northern and western sections; in the eastern, central, and southern districts the precipitation was below normal. Plowing and seeding were in progress in southern and western sections toward the latter part of the month. Range feed starting nicely and stock in good condition generally. Outlook unusually favorable for a good flow of water until late in season.—*J. H. Smith.*

New England.—Weather was generally favorable for outdoor work. Month closed with ground generally bare of snow, except in protected places in the woods, although frost was not out except in some extreme southern sections. Fall grain and grass wintered well. The maple sugar season was later than usual, with fair prospects. Plowing had begun in some of the southeastern sections of the district. The water famine continued in northern sections of New Hampshire and in western Maine.—*J. W. Smith.*

New Jersey.—The month was characterized by hard freezing weather and frequent thaws; farm work was generally behindhand. A few early potatoes and peas were planted on light soils in the southern section. Winter grain was generally below average condition, some low fields having been scalded. Peach buds in southern section, and in some places in northern section, were largely winter killed.—*Edward W. McGinn.*

New Mexico.—Drought practically continuous since last September, but northern mountains received a good snow on the 31st, more than fell during all the previous winter. Southern ranges dry and cattlemen losing stock. Moisture badly needed for approaching lambing season. Late frosts slightly damaged southern orchards.—*R. M. Harding.*

New York.—First half of month cold and windy, but latter half mild; frost leaving ground rapidly; ground bare in warmer sections, but snow 3 feet deep in parts of Adirondacks; wheat and rye damaged; considerable grass winter killed; peach buds killed to large extent; maple sugar harvest begun; generally no farm work done.—*R. G. Allen.*

North Carolina.—The slight excess in temperature during March was the first to be recorded in North Carolina in six months. This condition was favorable, but frequent light rains kept the soil too wet to plow in many districts. Winter wheat improved somewhat and began to show above the ground green and vigorous. Winter oats remained poor. Some spring oats were sown and came up nicely. Preparations for truck crops were commenced very late. Strawberries appeared to have wintered well.—*C. F. von Herrmann.*

North Dakota.—March gave about average weather conditions, except that the winds were higher than usual. An especially severe storm on the 24th and 25th caused considerable loss of stock, and several lives were also lost. Owing to heavy snows in the western portion, stock grazing on the ranges was seriously interfered with. The month closed with the ground deeply frozen and, as a rule, covered with snow.—*B. H. Bronson.*

Ohio.—The temperature averaged practically normal over the State. The highest temperature occurred generally on the 22d, and the lowest on the 4th. The precipitation was considerably in excess of the normal, much damage being done in some sections by high water. Early sown wheat is generally better than late sown, but the outlook is everywhere below the average. Apple and pear trees are in good condition, cherries, plums, and berries somewhat injured, and peaches badly winter killed.—*J. Warren Smith.*

Oklahoma and Indian Territories.—Cold waves the 3d-4th and 26-28th, remainder of month excessively warm; warmest March on record; general rains on 24th; wheat over central and eastern divisions in fair to good condition, over western division generally poor; oat seeding well advanced and coming up to good stand in some localities; corn planting progressing; early potatoes planted and coming up; cotton ground being prepared, with increased acreage; fruit badly damaged by freezing over Oklahoma, but no damage over Indian Territory.—*C. M. Strong.*

Oregon.—Cold, wet weather prevented spring plowing, seeding, and gardening. Fall wheat was thin and stunted from lack of warmth and sunshine, but was well rooted and healthy. Inclement weather, backward pasturage, and scarcity of feed caused some loss of young cattle and lambs. Fruit trees escaped winter injury; but few blooms had appeared at the close of the month—a favorable feature owing to decreased liability to frost damage with a backward season and late bloom.—*Edward A. Beals.*

Pennsylvania.—Alternate periods of freezing and thawing were unfavorable for grain. At the close of the month surface conditions indicated

that wheat and rye were materially injured, but no accurate estimate of damage to roots could be formed at such an early date. Very little plowing had been done, and there was much frost in the ground in nearly all sections. The consensus of opinion was that peach buds had suffered more than any other fruit.—*T. F. Townsend.*

Porto Rico.—Dry weather throughout the southern division until the last week materially injured young canes and pasturage; elsewhere ratoons and small crops suffered somewhat, and the grade of cane juice was below normal, owing to too much rain. Grinding continued with slight interruption, and much cane was planted. The second blossoming of coffee occurred during the month; orange trees were blossoming.—*E. C. Thompson.*

South Carolina.—Preparation of land made satisfactory progress, and much corn, some rice, a little cotton, minor crops, and gardens were planted in the eastern half. Winter wheat and oats improved during the warm periods, reaching fair condition. Spring oats came up to good stands. Fruit trees generally finished blooming and set full crops of peaches, pears, and plums. Tobacco plants in beds were healthy, though small. The weather favored truck, and shipments of early vegetables were begun.—*J. W. Bauer.*

South Dakota.—Month drier and a little warmer than usual. Because of cold nights, frosty ground, and considerable high wind, comparatively little seeding or preparatory field work was done, except in the extreme southeastern portion of the State. Winter rye and the very limited amount of winter wheat sown were generally reported in favorable condition. There was some loss of cattle early in the month on the open ranges in the northwestern portion of the State.—*S. W. Glenn.*

Tennessee.—Fairly mild weather, with sufficient moisture, during the greater part of the month favored the growth of vegetation and early sown winter grain. Spring oats, clover, and grass made good progress; wheat improved decidedly. Plowing was somewhat delayed by rainy weather. Damaging winds and rains were followed by a cold wave, with frost, during the last decade, which injured fruit slightly.—*H. C. Bates.*

Texas.—Temperature conditions were generally favorable during the month. Cool waves occurred on the 3d and 4th, 13th and 14th, and 27th and 28th. The first one gave freezing temperatures as far south as Williamson County and the two latter light frosts down to about the same region. Good to heavy rainfall occurred over the northeastern portion between the 17th and 26th, but other sections received only light showers during the month. Cotton planting progressed in all sections, and by the close of the month half of the crop had been planted in some of the southern counties. The early planted came up nicely, but was killed by frost in some localities in the northern and middle portions. The planting of early corn was completed and good stands generally secured. Wheat, barley, oats, and rye were in good condition in the eastern half, but west of the ninety-eighth meridian grain had been badly damaged by drought. The fruit crop was generally in good condition.—*L. H. Murdoch.*

Utah.—Excessive precipitation occurred over the north half of the State, where the ground was too wet to work. Grass and fall grain were making a fine start. Southward the precipitation decreased rapidly and active farming operations had begun. Much of the spring grain was up, and lucerne had made a splendid growth. Some early fruit in unprotected orchards was injured by freezing. Irrigation water will be plentiful except on some southern farms.—*R. J. Hyatt.*

Virginia.—Winter wheat and oats entered the month in rather poor condition, especially the latter, which was much winter killed. The change toward a more normal condition of temperature that occurred during the month was very beneficial to all fall sown crops, and a slow but steady improvement resulted. Farm work generally was much behindhand, more particularly plowing and other preparations for spring seeding.—*Edward A. Evans.*

Washington.—Excessive rains in western division prevented farm work; unusually heavy snowfall in eastern division, with much still on ground, hindered spring operations. Fall wheat backward on account of late spring, but generally wintered well and has good stand; winter wheat yellow and sickly in parts of western division because of continuous rains. Fruit prospects thought to be unimpaired; trees not blossomed yet. Surplus moisture in soil expected to result beneficially to crops.—*G. N. Salisbury.*

West Virginia.—The mild weather and good showers during the fourth week started vegetation, and at the close of the month grass was turning green and fruit buds were beginning to swell. Farm work was behind, but some plowing had been done, and some potatoes planted in the southern section. Wheat, rye, oats, and grass were in very poor condition. The late freeze did little damage, as fruit was backward.—*E. C. Vose.*

Wisconsin.—The month was unusually cold, and while most of the snow disappeared during the third decade, the ground remained frozen except in the southern counties until the close of the month. Winter grains and grasses appeared to be in good condition, having been protected from the cold during the winter by an ample covering of snow. Preparations for spring work were under way, but practically nothing had been accomplished.—*W. M. Wilson.*

Wyoming.—The month of March, like the three preceding months, was

mild. The winter was unusually favorable for the stock interests of Wyoming, and in many sections the losses were exceedingly small. An ample amount of snow over the western and northern sections of the

State, assures a good water supply for the coming summer in those sections. Over the southeastern part the supply of snow was deficient, and a shortage of water was anticipated.—W. S. Palmer.

SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS, MARCH, 1904.

In the following table are given, for the various sections of the Climate and Crop Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation. Of course the number of such records is smaller than the total number of stations.

Section.	Temperature—in degrees Fahrenheit.						Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.				Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.			Station.	Amount.	Station.	Amount.
Alabama	58.2	— 3.0	Clanton	89	22	Oneonta	23	9	Madison	8.50	Clanton	1.05
Arizona	57.2	+ 3.2	Dothan	89	24	Flagstaff	0	24	Flagstaff	1.39	6 stations	0.00
Arkansas	55.4	+ 3.2	Chambers Camp	105	8	Pond	12	4	Witt Springs	8.47	Pond	1.88
California	51.1	— 0.9	Amity, Ozark	90	21	Bodie	—12	12	Bowmaus Dam	39.51	4 stations	0.00
Colorado	38.1	+ 4.4	Salton	98	7	Antelope Springs	—17	26	Ruby	6.65	Lamar	0.01
Florida	67.5	+ 2.8	Volcano Springs	98	7	Tallahassee	30	16	Bonifay	4.00	Flamingo	T.
Georgia	57.8	+ 2.4	Lamar	84	2	Wausau	30	5	Clayton	6.64	Americus	0.83
Idaho	34.7	+ 2.4	Macedenny	94	22	Clayton	22	16	Hailey	7.73	Milner	1.32
Illinois	40.0	+ 0.9	Jesup	92	23	Tallapoosa	22	28	Mt. Carmel	12.84	Lanark	2.68
Indiana	40.7	+ 1.5	Pollock	73	24	Lake	—14	24	Washington	13.73	Topeka	3.22
Iowa	34.8	+ 2.4	Plum Hill	80	31	Lanark	9	4	Bedford	4.57	Ida Grove, Sioux C'y	0.50
Kansas	46.9	+ 4.9	Madison, Wash- ington	80	24	Valparaiso	11	3	Fort Leavenworth	4.24	4 stations	T.
Kentucky	47.7	+ 1.5	Rome	80	31	Angola, South Bend	11	4	Owensboro	8.99	Williamsburg	3.78
Louisiana	64.2	+ 3.9	Ottumwa	78	23	Columbus Junction	—3	3	Collinston	6.78	Jennings	2.00
Maryland and Delaware	41.2	— 0.8	Sedan	93	2	Wallace	—4	3	Cambridge, Md.	4.24	Westport, Md.	1.13
Michigan	28.1	— 0.5	Mayfield	88	21	Anchorage	12	4	South Haven	7.32	Mancelona	0.42
Minnesota	24.8	+ 0.1	Franklin	90	31	Calhoun	24	4	Mount Iron	3.72	Pipestone	0.08
Mississippi	60.2	+ 3.4	Robeline	90	2	Oakland, Md.	5	17, 18	Duck Hill	8.77	Macon	2.25
Missouri	44.8	+ 2.5	Bootherville, Md.	87	25	Humboldt	—31	4	Ironton	11.49	Lamar	1.48
Montana	25.1	— 4.5	Lu Verne	70	31	Corinth	—21	4	Troy	4.51	Boulder	0.61
Nebraska	38.8	+ 4.3	Port Gibson	89	22	Montreal	8	4	Fairbury (near)	2.69	5 stations	T.
Nevada	39.7	+ 3.0	Dean	87	21	Wolsey	—36	26	Lewer's Ranch	9.10	Fallon	T.
New England*	30.2	— 0.8	Lame Deer	63	7	Agate	—7	3	Bar Harbor, Me.	5.37	Fort Fairfield, Me.	0.95
New Jersey	37.2	— 1.1	Alma	84	18	Ely	0	23	Imlaystown	4.76	Pleasantville	2.02
New Mexico	47.6	+ 3.7	Fairbury	84	2	Geyser	0	24	Fort Wingate	1.40	12 stations	0.00
New York	29.8	— 1.4	Sodaville	80	19	Fort Fairfield, Me.	—23	4	Adams Center	6.24	Plattsburg	0.20
North Carolina	50.5	+ 1.9	Chestnut Hill, Mass.	71	26	Charlotteburg	1	5	Horse Cove	8.14	Rockingham	2.13
North Dakota	18.0	+ 6.9	Barnegat, Tuckerton	72	26	Wisors	5	13	Pembina	2.24	Ellendale	0.30
Ohio	39.7	+ 0.8	Carlsbad	91	2	Indian Lake	—25	5	Green	8.84	Philo	2.44
Oklahoma and Indian Territories	56.1	+ 5.9	Appleton	66	25	Jinville	14	29	Coalgate, Ind. T.	4.60	3 stations	0.00
Oregon	40.3	— 2.0	Primrose	66	26	Milton	—28	3	Buckhorn Farm	26.47	Riverside	0.60
Pennsylvania	36.0	— 10.4	Ripley	66	22	Bayshore	—2	17	Beaver Dam	7.02	Serauton	2.10
Porto Rico	73.2		Rockingham	85	20	Adjuntas	50	4	Cidra	19.45	Santa Isabel	2.76
South Carolina	56.2	+ 1.6	Rockingham	85	20	Caguas	50	14	Walhalla	5.52	Charleston	1.54
South Dakota	31.0	+ 3.0	Rockingham	85	20	Guenville	23	16, 17	Leola	1.50	3 stations	T.
Tennessee	51.4	+ 2.9	Rockingham	85	20	Leola	—18	3	Sewanee	10.08	Bristol	3.10
Texas	64.8	+ 5.9	Rockingham	85	20	Rugby	13	4	Arthur City	6.02	28 stations	0.00
Utah	39.9	+ 1.6	Rockingham	85	20	Ranch	—10	22	Park City	7.85	2 stations	T.
Virginia	45.7	— 0.1	Rockingham	85	20	Burkes Garden	11	4	Big Stone Gap	5.20	Richmond	1.28
Washington	38.0	— 3.0	Rockingham	85	20	Hot Springs	11	28	Clear Water	18.33	Ephrata	0.50
West Virginia	43.8	+ 2.6	Rockingham	85	20	Republic	—4	2	Pickens	6.10	Moorefield	1.38
Wisconsin	28.0	— 0.8	Rockingham	85	20	Ryan	7	4	Milwaukee	5.46	Grantsburg	0.65
Wyoming	30.1	+ 2.1	Rockingham	85	20	Butternut, Hayward	—24	4	Battle	9.10	Pine Bluff	T.
			Rockingham	85	20	Daniel	—26	3				

* Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

SPECIAL ARTICLES.

THE DIMINUTION OF THE INTENSITY OF SOLAR RADIATION DURING THE YEARS 1902 AND 1903 AT WARSAW, POLAND, RUSSIA.

By LADISLAS GORCZYNSKI.

[Translated from Comptes Rendus, Paris, February 1, 1904. T. CXXXVIII, pp. 255-258.]

In his communication of the 26th of March, 1903, M. Henri Dufour was the first to announce the fact that the intensity of the solar radiation, as received at the surface of the earth, had experienced a considerable diminution since the beginning of the year 1903.¹

¹This fact was also announced independently by Mr. H. H. Kimball, as the result of his own observations at Asheville, N. C., during the years

Basing his conclusions on the observations that had been made at Lausanne and at Clarens² with the Crova actinometer,

1902 and 1903, but his publication of the fact was delayed a short time. See his note in Monthly Weather Review, May, 1903, p. 232, which article was communicated for publication on April 15, 1903. This fact had also been simultaneously observed at Washington at the Astrophysical Observatory of the Smithsonian Institution. See article by Mr. C. G. Abbot, Monthly Weather Review, December, 1903, p. 587. Similar irregularities had also been pointed out by Mr. Abbot in the Monthly Weather Review, April, 1902, p. 178, as revealed by observations at Montpellier, France.—ED.

²On the northeast shore of Lake Geneva, 20 miles east-southeast of Lausanne.